

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **29 DECEMBER 2004 (29.12.2004)**

Applicant's or agent's file reference
PCT04-027

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/KR2004/001243

International filing date (day/month/year)
25 MAY 2004 (25.05.2004)

Priority date(day/month/year)
31 MARCH 2004 (31.03.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C07C 68/02

Applicant

LG HOUSEHOLD & HEALTH CARE LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001243

Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	4-6	YES
	Claims	1-3	NO
Inventive step (IS)	Claims	None	YES
	Claims	4-6	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims	None	NO

2. Citations and explanations :

1. Reference is made to the following documents:

D1: US 5705091 (The Clorox Company) 6 January 1998 cited in the application

2. Novelty and Inventive Step

1) Claims 1-3

The subject matter of claims 1-3 relates to a method for preparing an ester bleach activator compound comprising (A) preparing fatty acid monoester, (B) making chloroformate by reacting the fatty acid with phosgene in the presence of base, (C) reacting chloroformate with hydroxybenzene, its derivatives or its salts in solvent.

D1, which is cited in the application, discloses the ester bleach activator of the present invention and the preparing method thereof. According to the example 1(D1), sodium 4-(2-octanoyloxy ethoxy carbonyloxy) benzenesulfonate is prepared by the same steps of the claim 1: (A) preparing 2-hydroxyethyl octanoate, (B) making chloroformate by reacting the 2-hydroxyethyl octanoate with phosgene in the presence of pyridine which is an organic base, and (C) reacting the chloroformate with 4-hydroxybenzenesulfonate. Although in the application, it is insisted that the reaction temperature of D1 should be controlled low at about -78°C, it is the temperature when mixing the reactants. The reaction temperature of the step (B) is a room temperature.

Therefore, the subject matter of claims 1-3 cannot be considered to be novel under the PCT Article 33(2).

2) Claims 4-6

Claims 4-6, which are dependent on claim 1, specify the solvent of the step (C) as water and the content of water.

(Continued on Supplemental Box)

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of :

Box V

Compared with D1, the subject matter of claims 4-6 substitutes water for CH₃CN as a solvent in step (C). However, there is no certain description about the technical meaning and effect of changed solvent and it is obvious to the person skilled in the art to change solvent.

Thus, the subject matter of claims 4-6 does not involve an inventive step under the PCT Article 33(3).

3. Industrial Applicability

The subject matter of claims 1-6 is considered to be industrially applicable under PCT Article 33(4).